

CLAIMS

1. A shutter unit for selectively opening and closing the optical path of a laser beam, comprising:

5 a rotating member which rotates around the axis line that is substantially orthogonal to the optical axis of said laser beam, and which is provided with an opening for passing said laser beam therethrough and a reflective surface for reflecting said laser beam; and

an optical absorption member for absorbing the laser beam reflected with said reflective surface.

10 2. A shutter unit according to claim 1, wherein said rotating member has a base portion which rotates around said axis line, and an inclined plate extending from said base portion to said optical axis side and inclined toward said axis line side;

15 wherein said opening is formed between said base portion and said inclined plate, and said reflective surface is formed on the outer surface of said inclined plate in relation to said axis line.

3. A shutter unit according to claim 1, further comprising a drive motor having a rotational shaft disposed on said axis line, wherein said rotating member is mounted on said rotational shaft.

20 4. A shutter unit according to claim 1, wherein said reflective surface reflects said laser beam in a direction substantially parallel to said axis line, and said optical absorption member is disposed on the optical axis of the laser beam reflected with said reflective surface.

5. A shutter unit according to claim 1, further comprising a first photo interrupter; and a second photo interrupter;

25 wherein said rotating member is provided with a light blocking

plate for blocking the optical path of said first photo interrupter when said opening is positioned on said optical axis, and blocking the optical path of said second photo interrupter when said reflective surface is positioned on said optical axis.

- 5 6. A laser processing device comprising a shutter unit for selectively opening and closing the optical path of a laser beam for processing an object to be processed,

10 wherein said shutter unit comprises a rotating member which rotates around the axis line that is substantially orthogonal to the optical axis of said laser beam, and which is provided with an opening for passing said laser beam therethrough and a reflective surface for reflecting said laser beam; and

 an optical absorption member for absorbing the laser beam reflected with said reflective surface.